BRUHAT BANGALORE MAHANAGARA PALIKE

NAME OF WORK:- Drilling of Borewells and providing water supply facilities to ward No 01,02,03 & 04.

ESTIMATION

Estimation Cost.Rs 10000000.00

Sl No	Description of work	Unit	Mesurement				Qty	Rate	Amount
			No.	L	B	D			
1	Geophysical investigation at site for sinking borewells for supplying drinking water to the habitation either through the Hand Pump MWS or P.W.S.S, by vertical electrical sounding by adopting Venner or Schlumbergers's method, including econnaissance survey of geological formation. Geophysical investigation of existing ground water in the vicinity, its quality, quantity and acceptability of the users, indicating the location of the site, recommended depth of casing pipe required to seal the top unconsolidated formation including an extra depth of 1.0 metre in consolidated formation for proper seating of casing pipe, depth of drilling required to cover full depth of aquifer proposed to be tapped, probable yield and other information required including transportation of instruments and accessories to work site, engaging technical personal and labour required etc. NOTE: 1) Additional rate on item 1&2 is allowed for drilling in over burden and fixing Casing pipes beyond 20 M (for fixing Casing pipes only) a) Above 20 M and upto 30 M - 15%, b) Above 30 M - 30% (Measurement of overburden is restricted to the depth of casing pipe fixed excluding initial depth of 20M and projection above ground level). 2) A sum of Rs. 100/- is to be deducted for Dry Borewell towards yield test (PWD SR 2021-22 Vol-V Page No.152, Item No.4)								
		Each BW	9				9	5655.10	50896.00
	Basic Rate	5141.00							
	10% Area Weightage	514.10							
	Total	5655.10							
2	Sinking of Borewell of 165mm dia clear using super fast hydraulic rig of capacity 300 PSIG & above 1100 CMF & above in all strata including over burdern upto 20 m. Fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicle, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimumworking of compressor for one hour (Excluding cost of casing pipes,collars, cap etc., complete) (PWD SR 2021-22 Vol-V Page No.151, Item No.1)								
	0-50mtrs	Rmtr	9	50.00			450.00	319.00	143550.00
	Basic Rate	290.00							
	10% Area Weightage	29.00							
	Total	319.00							
3	50-100mtrs(PWD SR 2021-22 Vol-V Page No.151, Item No.1.2)	Rmtr	9	50.00			450.00	400.40	180180.00
	Basic Rate	364.00							
	10% Area Weightage	36.40							
	Total	400.40							
4	100-150mtrs (PWD SR 2021-22 Vol-V Page No.151, Item No.1.3)	Rmtr	9	50.00			450.00	425.70	191565.00
	Basic Rate	387.00							
	10% Area Weightage	38.70							
	Total	425.70							
5	150-200mtrs (PWD SR 2021-22 Vol-V Page No.151, Item No.1.4)	Rmtr	9	50.00			450.00	493.90	222255.00
	Basic Rate	449.00							
	10% Area Weightage	44.90							
	Total	493.90							
6	200-250mtrs (PWD SR 2021-22 Vol-V Page No.151, Item No.1.5)	Rmtr	9	50.00			450.00	579.70	260865.00
	Basic Rate	527.00							
	10% Area Weightage	52.70							
	Total	579.70							

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Sl No	Description of work	Unit	Mesurement				Qty	Rate	Amount
			No.	L	B	D			
7	250-300mtrs (PWD SR 2021-22 Vol-V Page No.151, Item No.1.6)	Rmtr	9	50.00			450.00	613.80	276210.00
	Basic Rate	558.00							
	10% Area Weightage	55.80							
	Total	613.80							
8	300-350mtrs (PWD SR 2021-22 Vol-V Page No.151, Item No.1.7)	Rmtr	9	50.00			450.00	682.00	306900.00
	Basic Rate	620.00							
	10% Area Weightage	62.00							
	Total	682.00							
9	Supply of ISI mark 175mm nominal bore,plain and steel casing pipe grade of steel Fe 410 of wall thickness conforming to IS 4270-2001 and latest ammendments, electrical resistance welded steel tubes, material and conforming to IS 1387-1993 and manufactured by basic open hearth electric or basic oxygen process in random length of 5-7m both ends.threaded conforming to IS 554-1985 one end fixed with socket conforming to IS 4270-2001 and the other end with screwed pipes all shall be responsibaly free from defects. The tubes shall be responsible straight end should be with ISI marking weighing 25.10kg/m. prices include Collar-Medium duty. (PWD SR 2021-22 Vol-V Page No.154, Item No.32)								
		Rmtr	9	60.00			540.00	2126.30	1148202.00
	Basic Rate	1933.00							
	10% Area Weightage	193.30							
	Total	2126.30							
10	PVC pipes of 10 Kg/cm2 for 200mm (PWD SR 2021-22 Vol-V Page No.35, Item No.1188)								
		m	9	10.00			90.00	1329.00	119610.00
11	Providing and laying at site of work MS casing caps as per IS 1239 (partII) 1982 with all latest amendments if any for any dia. The thickness of plate used for covering one end shall be 3mm (minimum). The dimensions of caps and colars shall be strictly as per IS 1239 (Part-II) 1982 with all amendments including cost of material and labour charges for fixing, if any etc. complete with all lead and lifts and as directed by the Engineer in charge (PWD SR 2021-22 Vol-V Page No.155, Item No.34)								
		Each	9				9	180.40	1624.00
	Basic Rate	164.00							
	10% Area Weightage	16.40							
	Total	180.40							
12	Fabricating supplying and mounting MS box of 16 SWG suitable for floor /wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clA with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete. (PWD Electrical SR 2022-23 Vol-VI Page No.15, Item No.5.42.2)								
		Sq.cm	9	1100	20		198000	0.38	75240.00
13	Supply and delivery at site wrought middle steel (galvanized) 50 mm dia GI Union confirming to IS 1239-II, 1991 with latest amendments if any (PWD SR 2021-22 Vol-V Page No.145, Item No.13.6)								
		Each	9	1			9	240.90	2169.00
	Basic Rate	219.00							
	10% Area Weightage	21.90							
	Total	240.90							
14	Supply and delivery at site wrought middle steel (galvanized) 50 mm dia GI hexagonal nipple confirming to IS 1239-II, 1991 with latest amendments if any. (PWD SR 2021-22 Vol-V Page No.146, Item No.15.6)								
		Each	9	3			27	192.50	5198.00
	Basic Rate	175.00							
	10% Area Weightage	17.50							
	Total	192.50							
15	Supply and delivery at site wrought middle steel (galvanized) 50 mm dia GI elbow confirming to IS 1239-II, 1991 with latest amendments if any for: (PWD SR 2021-22 Vol-V Page No.144, Item No.7.6)								
		Each	9	3			27	240.90	6505.00
	Basic Rate	219.00							
	10% Area Weightage	21.90							
	Total	240.90							

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Sl No	Description of work	Unit	Mesurement				Qty	Rate	Amount
			No.	L	B	D			
16	Labour charges for Erection, Electrification and commissioning of Pump sets, including aligning and balancing of all items including supply and erection of two pair of supporting clamps, bore well caps, cable clips and water tight gland cable protectors, bolts, nuts, valve and gauges,tools and equipments etc., involved in the job as per specifications, with necessary tests as per specifications, with testing of as per instructions of engineer incharge of work. (PWD SR 2021-22 Vol-V Page No.163, Item No.38)								
		Job	9				9	6765.00	60885.00
	Basic Rate	6150.00							
	10% Area Weightage	615.00							
	Total	6765.00							
17	Labour charges for erection of outdoor type panel board and meter boardunits with all necessary materials and labour, tools and equipments including providing cement concrete foundation bed etc., complete as per specification, with testing of as per instructions of engineer incharge of work. (PWD SR 2021-22 Vol-V Page No.163, Item No.40)								
		Job	9				9	1485.00	13365.00
	Basic Rate	1350.00							
	10% Area Weightage	135.00							
	Total	1485.00							
18	Supplying of 1.1KV LT UG cable XPLE or heat resistant PVC Insulated PVC eatruded inner sheath armoured UG LT cable as per IS - 1554(Part-1) or IS-7098 Part-1,Armouring strip thickness in average +5% and resistivity 14ohms/kms(max) as per IS -3975 4 core 16sqmm (Ele SR 2019-20 P-No 40 I/No-6.4.4)								
		Rmtr	9	45.00			405.00	150.00	60750.00
19	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe/ stone pipe / on wall/ on pole as required 6 sqmm to 16 sqmm. (Ele SR OF 2019-20 P-No 41 I/No-6.5.1)								
		Rmtr	9	45.00			405.00	11.88	4812.00
20	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete cutting road surfaces(P.No - 41, I.No -6.6.3, KPWD Electrical SR 19-20)								
		Mtr	9	45.00			405.00	82.00	33210.00
21	Supplying and fixing of class A GI pipe on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV class 40mm (P.No - 41, I.No -6.9.1, KPWD Electrical SR 19-20)								
		Mtr	9	4.00			36.00	335.00	12060.00
22	Earthing: Supplying and fixing and wiring earth electrode for grounding circuits IC cutouts and other equipments on the meter board in the pit. The pits should be filled up with equal proportion of salt and charcoal 150mm around the pipe to complete depth. The connection from the pipe to the conduits etc. is to established through GI wire of sizes as per clause 7.3.3 of IS 732 using 12mm bolts, nuts, washers and check nuts, the pipe shall have 16 through holes of 12mm dia (PWD SR 2021-22 Vol-V Page No.164, Item No.45)								
		Job	9				9	4125.00	37125.00
	Basic Rate	3750.00							
	10% Area Weightage	375.00							
	Total	4125.00							
23	Providing,Supplying and fixing suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps,bolts,nuts and washers etc. with necessary materials and labour tools and equipments as per instructions of engineer incharge of work. 3½x6 Sqm (PWD SR 2021-22 Vol-V Page No.164, Item No.44.1)								
		Each	9				9	566.50	5099.00
	Basic Rate	515.00							
	10% Area Weightage	51.50							
	Total	566.50							
24	Supply and fixing polished wood board made of not less than 15mm thick plank on both sides of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws 20" x 20" x 2.5" (PWD Electrical SR 2022-23 Vol-VI Part-I Page No.10, Item No.5.6.6)								
		Nos	9				9	315.00	2835.00
25	Providing,supplying to work site, Submersible Pump Set of 150mm dia suitable for bore well and confirming to IS 8034-2000;3Phase, SS Bowl & Impeller with Low volt Motor as per specifications,as per necessary ammendments and instructions of engineer incharge of work. 17.50 HP - 120 LPM @ 308 m = 26 STG Outlet Dia - 2.00" (PWD SR 2021-22 Vol-V Page No.161, Item No. 19.6)								
		Each	9				9	78963.00	710667.00
26	Supply and delivery of galvanized mild steel tubes of 6mtr standard length heavy duty (C Class) as per IS 1239 (Part-I) 1990 with latest amendments with ISI Mark (one end fitted with Heavy Duty collar and other end fitted with protective cover) (PWD SR 2021-22 Vol-V Page No.162, Item No.33.1)								
		Each	9	51.00			459.00	3355.00	1539945.00
	Basic Rate	3050.00							
	10% Area Weightage	305.00							
	Total	3355.00							

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Sl No	Description of work	Unit	Mesurement				Qty	Rate	Amount
			No.	L	B	D			
27	Supplying and drawing 3 core flat PVC sheathed submersible pump cable manufactured with electrolytic grade copper with flexible copper with low resistance conductor confirming to13:8130-1984 and virgin grade PVC insulation and powder coating extruded PVC sheathed suitable for working voltage upto 1100 V as per IS-694:2010. 3C x 6 mm2 (PWD Electrical SR 2022-23 Vol-VI Page No.4, Item No.2.6.4)								
		Mtr	9	642.00			5778.00	242.00	1398276.00
28	Supplying fully automatic star-delta starter unit push button type with suitable wires, 3 contactors, one adjustable thermal timer mounted on a common base plate held in steel enclosure for use on 400/440 V 3 phase and wired after fixing to the existing wooden board for motor Above 12.5 HP upto 25 HP (PWD Electrical SR 2022-23 Vol-VI Page No.10, Item No.5.2.2)								
		Nos	9				9.00	8640.00	77760.00
29	Supply and delivery at site of brand new best make gate valve as per IS 778/1984 with ISI Mark and as per its latest amendments Size 50 mm (PWD SR 2021-22 Vol-V Page No.162, Item No.27.1)								
		Each	9				9	1375.00	12375.00
	Basic Rate	1250.00							
	10% Area Weightage	125.00							
	Total	1375.00							
30	Supply and delivery at site of brand new best make non-return valve as per IS 778/1984 with ISI Mark and as per its latest amendments Size 50 mm (PWD SR 2021-22 Vol-V Page No.162, Item No.28.1)								
		Each	9				9.00	1402.5	12623.00
	Basic Rate	1275.00							
	10% Area Weightage	127.50							
	Total	1402.50							
31	Supply and delivery at site delivery of best indigenous brand new MCB (Miniature Circuit Breakers) of required capacity as per IS 88228/1978 and its latest amendments and with ISI Mark of 6/10/16/20/25/40 Amps with scalable box. (PWD SR 2021-22 Vol-V Page No.162, Item No.32)								
		per 3 Poles	9				9.00	1375.00	12375.00
	Basic Rate	1250.00							
	10% Area Weightage	125.00							
	Total	1375.00							
32	Earth work excavation for pipelines/cables by Manual means upto 600 mm trench width, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, including dressing of excavated surfaces, disposing off or leveling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m. Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering and lift upto 1.5 m including cost of labour, tools, usage& other appurtenances required to complete the work. (PWD SR 2021-22 Vol -I Pg No 6 item no 1.6.1)								
	For Connecting borewell	Cum	9	321.50	0.60	0.75	1302.08		
	Sub total						1302.08	517.00	673173.00
	Basic Rate	470.00							
	10% Area Weightage	47.00							
	Total	517.00							
33	Providing and installing at site of work 6 Kg/m2: 63mm(weight of pipe -0.662 kg) P.V.C. pipes including cost of pipes and specials and labour, including lowering into trenches, laying true to line, level and perfect linking at joints leak proof including jointing of approved type with all labour charges and all lift charges, handling charges including encasing the pipe around to a depth not less than 15 cms with gravel or selected earth available from the excavation etc. complete. (PWD SR 2021-22 Vol-V Page No.140, Item No.13)								
	For Connecting borewell	mtr	9	321.50			2893.50		
	Sub total						2893.50	168.3	486977.00
	Basic Rate	153.00							
	10% Area Weightage	15.30							
	Total	168.30							
34	Refilling available earth around trenches/pipelines, cables in layers not exceeding 20 cms in depth, compacting each deposited layer by ramming after watering with a lead upto 50 m , and lift upto 1.5 m. Including cost of all labour complete as per specifications (PWD SR 2021-22 Vol -I Pg No 7 item no 1.10)								
	For Connecting borewell	Cum	9	321.50	0.60	0.75	1302.08		
	Sub total						1302.08	134.20	174739.00
	Basic Rate	122.00							
	10% Area Weightage	12.20							
	Total	134.20							
	BESCOM Charges	Nos	9				9	20000	180000.00

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Sl No	Description of work	Unit	Mesurement				Qty	Rate	Amount
			No.	L	B	D			
								Total of Other SR Items including GST Unit Rate	180000.00
								Total of RWS 21-22,Electrical SR 19-20,21-22,PWD SR 2018-19 And 2021-22 Items	8320020.00
								Sub Total	8500020.00
								GST Charges (18% of estimated cost)	1497604.00
								Total	9997624.00
								Miscellenious and rounding	2376.00
								Total Amount	10000000.00
								RUPEES ONE CRORE ONLY	

CERTIFICATE:

1) The work spot has been inspected and found to be necessary
2) The work spot comes under B.B.M.P
3) The provisions made in the estimate are necessary and minimum
4) The estimate is based on PWD 2021-2022, RWS-21-22 KPTCL-21-22 2019-20 Issue rates and Data Rates.

Assistant Engineer
BBMP

Assistant Executive Engineer
BBMP

Executive Engineer
BBMP

Administrative Sanction for Rs. 100.00 Lakhs
Rupees One Crore Only
is accorded under head 3075
District Minister Grants
Registered as CE No. 47 Subject
to conditions contained in enclosed memo
No. BBMP/EE/YNK-D/AS/47/22-23 Dt. 28/03/2023

Executive Engineer

Technical Sanction
Accorded For Rs 100 Lakhs only
Head of A/C. 3075
CER NO : 186 Dt: 2/3/23

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